AN *EMIC* APPROACH TO DESIGN: METHODOLOGY FOR CREATING SUPPORTIVE ENVIRONMENTS FOR YOUNG CHILDREN

Millend K. Gupta, Melissa Groves & James D. Moran
University of Tennessee-Knoxville
230 Jessie Harris Building
Knoxville, TN 37996-1900.
USA

Telephone: 423-675-2762
FAX: 423-974-5236
E-mail: mgupta@UTK.EDU

Topic Area: Analysis and Design in Spatial Planning

AN *EMIC* APPROACH TO DESIGN: METHODOLOGY FOR CREATING SUPPORTIVE ENVIRONMENTS FOR YOUNG CHILDREN

Millend K. Gupta, Melissa Groves & James D. Moran
University of Tennessee-Knoxville
230 Jessie Harris Building
Knoxville, TN 37996-1900
USA.

ABSTRACT

The responsibility of the designer is to understand the unique perspective of the users, in order to create functional and efficient environments. The task of creating supportive environments often becomes more difficult when there is discrepancy between the perspective of the designer and that of the user, which is the case when designing spaces for children. The interaction of children with their environment has been identified as the basis of their development. Most of the previous research has focused on the perspectives that adults have of spaces for children (*etic*), rather than an understanding of the child's view as the primary user of the playspace (*emic*). Children's perceptions are influenced by their physical and cognitive perspectives thus posing a unique challenge for designers. The objective of this study was to learn about the perception and perspective of four- and five-year-olds of their favorite playspaces. The children needed to identify their favorite spaces and also be able to verbalize the activities and meanings associated with these spaces. To avoid adult bias at the onset, the idea of utilizing a Polaroid Captiva camera was formulated, facilitating an extremely short latency period between the child taking the pictures and the opportunity to talk about their favorite playspace. The process was extremely successful, and provides first hand insight into children's perception of their built environment. Photographs taken by the young children include many spaces not designed for play. The emerging themes are a source of invaluable information for designers and planners for making informed design decisions and for creating supportive environments.

INTRODUCTION

The responsibility of the designer is to understand the unique perspective of the users, in order to create functional and efficient environments. The task of creating supportive environments often becomes more difficult when there is discrepancy between the perspective of the designer and that of the user, which is often the case when designing spaces for children. The interaction of children with their environment has been identified as the basis of their development, making the issue of creating supportive environments for children even more crucial than for other population groups.

Most of the previous research has focused on the perspectives that adults have of spaces for children (*etic*), rather than an understanding of the child's view as the primary user of the

playspace (*emic*). Children's perceptions are not only influenced by physical characteristics such as their height and eye level, compared with adults, but also by cognitive factors such as different associations. This poses a unique challenge for designers when dealing with younger children, a challenge that is not easily addressed while providing supportive environments for young children.

The *emic* perspective helps us understand people whose ways of life are different than ours. It was the linguist Kenneth Pike (1943, 1954) who first conceptualized and proposed the term *emic*, from phon*emic*. He also contrasted the *emic* aspects with the *etic*, from phon*etics*, as they related to language and culture. The perspectives which are meaningful to the observees themselves, or the insiders' perspectives utilizing concepts and distinctions that are meaningful to the subjects is termed as *emic*. Whereas, the perspective of the observer, or the outsider's point of view, using concepts and distinctions that are meaningful to the observer is termed as *etic* (Harris, 1971; Goodenough, 1981). Thus, an *emic* description of a socially meaningful behavioral system is based on elements that are already components of the system, which is the case when attempting to understand young children's perspectives of their favorite spaces. These preferred spaces (which are instrumental and meaningful elements of a young child's world) are not elements of the adult behavioral system, as shown by previous studies (Groves, Gupta, Moran, & Nelson, 1995; Gupta, Groves, Moran, & Nelson, 1995). Such an orientation underscores the importance of the *emic* perspective.

REVIEW OF CURRENT METHODOLOGICAL APPROACHES

Children's environments have been studied from a variety of perspectives. In order to provide a context, the following is a review of methodological approaches utilized for studying children and their environments, both in and outside the home. The approaches or critical outcome measures have overwhelmingly been observations or assessments of children's behaviors while in such environments rather than their preferences for particular settings. Generally, studies have focused on two areas, within-setting variables or between-setting factors. A less developed area of research has been children's perspectives of space itself (Hart, 1987).

One approach to researching children's environments is to examine the variables that exist within the setting (Dempsey & Frost, 1993). These are variables interjected or placed within the setting or molecular variables (Darvill, 1982). These types of studies have examined the effects of peers, materials, or arrangement of space on children's behaviors. In such studies, the behavior of children is observed or assessed by the researcher to infer the impact of the molecular variables on children's play. The findings of these types of studies, have suggested that adults' influence the specific types of play outcomes by the materials placed in the environment as well as by their behaviors. This methodological

strategy attends only to the *etic* rather than incorporating both the *etic* and the *emic*.

Another approach to studying children's environments has been to explore variables in which the child is interjected or placed. These studies have focused on molar or between-setting variables (Darvill, 1982). Such factors have included culture, socioeconomic status, setting (indoor versus outdoor), and playground design (Dempsey & Frost, 1993). Again, outcomes of such studies have focused mostly on researcher observation and assessment of children's play as the outcome measure. There are notable methodological exceptions to the typical observational approach utilized in studying molar variables of children's play. Moore (1989) employed an interview approach to explore school-aged children's perceptions of a playground before and after the transition of the playground from the traditional blacktop play area to a more natural state. Ziller and Santoya (1988) used a Polaroid camera to explore subjects' perceptions of their environment. However, the subjects in both these studies were older children or adolescents, whose perceptions of the world more closely parallel those of adults.

As Dempsey and Frost (1993) have suggested, understanding of the school environments in which play occurs is critical for three reasons. The school environments are used by adults: (1) to enact the curricula; (2) to send messages to children regarding their likelihood of success; and (3) to indicate to children expectations regarding appropriate behavior.

This orientation, while true, overlooks a critical component. That is, the child is not passively reacting to the messages being sent by the environments (or adults) but actively constructing micro-environments within the environments developed by adults. Hart (1987) suggested that children as young as three years old create and recreate micro-environments within larger environments. However, what is salient to young children about the aspects of these environments (both micro and macro) has yet to be thoroughly examined.

In spite of the increase in the number of daycare settings for children, research demonstrates the home to be the principal setting impacting the early social and cognitive development of the child (Parke, 1978). Caldwell, Huder and Kaplan (1966) developed a HOME Inventory (Caldwell & Bradley, 1982) which combines observation and interview procedures to assess the quality of stimulation available to the child in the home.

The approaches described above are appropriate and useful, but *etic* in nature, resulting in either prescriptive or proscriptive interventions. It is necessary to utilize an *emic* approach in order to identify and understand settings that are meaningful to young children.

METHODOLOGICAL FRAMEWORK

The objective of this study was to learn about the perception and perspective of four- and five-year-olds of their favorite playspaces. The question at hand was how to uncover the meaning of the environment for a young child without influencing that meaning by constructing adult parameters that limit or direct that meaning. That is, what method would allow us to address environments for young children via an *emic* approach.

Young children (i.e., less than six years of age) present a special challenge to this task for several reasons. First, these children are the focus of a number of specific design tasks ranging from child care centers and playgrounds to residences and waiting rooms. Second, the cognitive structures of these children (within Piaget's intuitive period of the preoperational stage) suggest that one cannot assume that children organize their conceptions of space using the same models or reasoning as do older children or adults (Piaget & Inhelder, 1967). This difference in cognitive reasoning increases the likelihood of an *emic/etic* discrepancy (i.e., adult belief of how the child perceives the environment and the child's actual perception) unless special attention is given to the method of assessing the child's perspective.

This paper describes a methodology that is advantageous in helping provide insights into young children's understanding of their environments and the meanings they attach to those environments. The critical aspect of this method is that it allows for children to create their own stimuli from which to describe the idiosyncratic meaning they attach to their environments.

Often, the structuring of a question can bias the response especially when dealing with young children. In order for the process to be successful, the children needed to be able to identify their favorite spaces and also be able to verbalize the activities and meanings associated with these spaces. To avoid adult bias at the onset, the idea of utilizing a Polaroid Captiva camera was formulated, facilitating an extremely short latency period between the child taking the pictures and the opportunity to talk about their favorite playspace.

Twenty-five four-and five-year-olds took pictures of their favorite playspaces at a child care setting and at their own home. The interior environment was the focus, both at the child care and the home, but the children were allowed to take pictures of spaces and objects outdoors, if they so desired. At the child care, one child per session took photographs. To avoid bias from peers, the session took place inside during the outdoor play period in the morning. Immediately following the completion of the picture taking, the child sat down with the interviewer to talk about his or her favorite playspaces and features of the setting that made it a preferred space. The interviewer took special care not to ask leading questions or to direct children's responses. The responses during the

interview indicate that the photographs that they took are intentional and not random.

The parents were provided with detailed written instructions for the session at home. The camera was sent home with the parents, when they came to pick their child up, in order for the child to take photographs of their favorite playspaces later the same evening. The parents brought the camera and the photographs the next morning when they came to drop their child at the child care center. Soon thereafter the researcher sat down and talked to the child about the photographs they had taken. It was also important with the photographs taken at home that the researcher know the location of the preferred settings. The parents were provided with a formatted sheet, where they could indicate the location of the settings photographed at home. The latency period for the preferred playspaces at home was slightly longer than the child care setting, but it was found that the children had no problem recalling or remembering the previous evening task.

Several guidelines were identified to help us uncover the meaning children attach to selected spaces. First, we wanted to provide children the opportunity to talk about selected spaces in their environments and to hear directly from the children themselves. Second, we wanted to provide children stimuli which would serve as a means to begin that discussion. Third, we wanted to ensure that those stimuli carried meaning for the child rather than imposed meaning upon the child.

The strategy we employed utilized the Polaroid Captiva camera which appeared to allow us to meet most of our guidelines. This camera develops pictures in a window at the back of the camera. Thus, you see the image of the photograph you have taken within less than one minute and these pictures are readily stacked and stored in that location. With young children this provides relatively instant feedback that the image sought was indeed registered. We found that children as young as four years old were able to manipulate this camera quite easily and the instantaneous development of the photograph helped hold their interest.

In this manner, children were able to create their own stimuli which were used for subsequent interviews. Moreover, the children were able to obtain the image desired by retaking the photograph of the space as needed. These self-generated stimuli allowed for idiosyncratic meaning to be explored (i.e., reflecting the specific meaning for that particular child). Whereas we might take a photograph of the bed, the child takes a photograph of the space under the bed. Each of these stimuli carry different meaning for the child and when the child creates the image, the child's meaning emerges rather than the child interpreting meaning "intended" by adults (i.e., the *emic* rather than the *etic*).

The ability to get instant developing also proved advantageous. This allowed for reduction of the time lag between stimulus generation and the interviews. We found that

the stimuli were essential in providing a context for the discussions with the child. With a reduced time lag recall became less of a issue. This method helped maintain meaning for the child and reduced the effect of any intervening variables which might alter that meaning.

The use of these self-generated images also appeared to help preserve the interest in the interviews and helped these young children stay on task. We believe that this was due to the fact that the child became more of a partner in the process itself, thus increasing his or her investment in the task.

CONCLUSION

The methodology described in this paper was extremely successful, and provides first hand insight into children's perception of their built environment, in addition to yielding valuable qualitative data. Photographs taken by the young children included many spaces not designed for play, in fact many spaces designed by adults for play were not identified as preferred playspaces by the children. Conversely, spaces deemed "out of bounds" by adults (under the bed; inside the closet), were indicated as preferred spaces by the children. The emerging themes are a source of invaluable information for designers and planners for making informed design decisions and for creating supportive environments. This method recognizes the unique developmental perspective of the young child allowing for a developmentally appropriate assessment of the child's environmental preferences. When trying to understand the users' perspective, especially for young children who are not able to express their needs and preferences either verbally or in writing, this methodology allows the designer insight not usually available. As designers are encouraged to incorporate the unique perspective of young children into designs, identification of a methodology to uncover that perspective is indeed helpful (Kennedy, 1991). The Polaroid Captiva camera provides such a mechanism that is relatively easy (and inexpensive) to use. This methodology also appears to allow meaning to emerge from the child, is appropriate to the child's developmental level and level of cognitive maturity, and sustains interest in the task.

The concept that we need to incorporate user perspective in design is reasonably well established. However, such a task becomes more difficult when the users are young children. Sanoff (1989) presents the real advantages of user participation in designing child care facilities, and no doubt incorporation of the perspective of the teacher is useful. Yet, teachers are not the only user in this context and such an approach still relies largely on the *etic* without consideration of both the *etic* and the *emic*.

Generally as we deal with design for young children we have relied on limited methods to attempt to be sensitive to the child's view. These methods, however, have yielded only a

partial picture of the *emic* environment. We typically have used observation or retrospective studies. Both approaches rely more on expert interpretation of the experiences of the user (*etic*) rather than directly assessing the user perspective directly (*emic*). Our experience in using the methodology detailed in this paper suggests that we can move closer to an integrative *emic/etic* approach. Interviews with the child using self-generated stimuli without reliance on retrospection can provide us a picture of how the child fashions his or her world which will enable us to provide designs more appropriate to the child.

In addition to using this technique in the design phase, we might also suggest that this approach has utility as an evaluative tool. Interviews conducted with this technique may provide us with a sense of whether our designs meet with our intended goals.

We hope that the discovery of this technique is helpful to designers and child development personnel in enhancing the use of space for young children. Although we have recognized the need for incorporating user perspective into the design process we (as well as others) have struggled with how to address this issue when the user is a preschooler. We believe that the technique detailed in this paper is a useful tool for that purpose.

NOTES

[1] It should be noted that none of the authors are associated with Polaroid nor did Polaroid support this research. Our assessment of the utility of this particular camera and methodology is based on independent judgment.

[2] For a full description of the research findings regarding playspaces the reader is referred to Gupta, et al (1995) and Groves, et al (1995).

[3] What is interesting about this example is that it uses an *emic/etic* perspective for the teachers, but only the *etic* for the children. Multiple users at different developmental levels presents a special challenge.

REFERENCES

Caldwell, B.M., Huder, J., & Kaplan, B. The inventory of home stimulation. Paper presented at the meeting of the American Psychological Association, September, 1966.

Caldwell, B. M. & Bradley, (1982). HOME observation for measurement of the environment.

Little Rock, AK: University of Arkansas, Center for Child Development and Education.

Darvill, D. (1982). Ecological influences on children's play: Issues and approaches. In D. J. Pepler & K. H. Rubin (Eds.) *The play of children: Current theory and research*, (pp. 144-153). Buffalo, NY: S. Karger.

Dempsey, J. D. & Frost, J. L. (1993). Play environments in early childhood education. In. B. Spodek (Ed.) *Handbook of research in the education of young children*, (pp. 306-321). New York: MacMillan.

Goodenough, W. (1981). *Culture, language, and society*. Menlo Park, CA: The Benjamin/Cummings Publishing Co., Inc.

Groves, M. K., Gupta, M. M, Moran, J. D., & Nelson, J. K. (1995). The lay of the land: Children's perceptions and preferences of play environments. Paper presented at the biennial meeting of the Society for Research in Child Development (SRCD), Indianapolis, March 30-April 2, 1995.

Gupta ,M. K., Groves, M. M., Moran, J. D., & Nelson, . K. (1995). Children's perception of their built environment: A view through the camera lens. *Proceedings of the Environmental Design Research Association (edra26)*, Boston, March 1-5, 1995, p.64.

Harris, M. (1971). *Culture, man, and nature: An introduction to general anthropology*. New York: Thomas Y. Crowell Company.

Hart, R. A. (1987). Children's participation in planning and design: Theory, research and practice. In C. S. Weinstein & T. G. David (Eds.) *Spaces for children: The built environment and child development*, (pp. 217-239). New York: Plenum.

Kennedy, D. (1991). The young child's experience of space and child care center design: A practical meditation. *Children's Environments Quarterly, 8*, 37-48.

Moore, R. C. (1989). Before and after asphalt: Diversity as an ecological measure of quality in children's outdoor environments. In M. N. Bloch & A. D. Pellegrini (Eds.) *The ecological context of children's play* (pp. 191-213). Norwood, NJ: Ablex.

Parke, R.D. (1978). Children's home environments: Social and cognitive effects. In I. Altman & J. Wohlwill (Eds.), *Children and the environment (*pp. 33-74). New York, NY: Plenum Press.

Piaget, J., & Inhelder, B. (1967). *The child's conception of space*. New York: Norton.

Pike, K.L. (1943). *Phonetics*. Ann Arbor, MI: University of Michigan Press.

Pike, K.L. (1954). *Language in relation to a unified theory of the structure of human behavior*, Part 1. Summer Institute of Linguistics.

Sanoff, H. (1989). Participatory strategies for the design of child care facilities. *Children's Environments Quarterly, 6*(4), 32-39.

Ziller, R. C., & Santoya, C. C. (1988). The psychological niche of children of poverty or affluence through auto-photography. *Children's Environments Quarterly, 5*(2), 34-39.